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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,334

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Gabriel Damon Engel

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EXAMINER

SINHA, RITA K

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/528,334	<b>Applicant(s)</b> ENGEL, GABRIEL DAMON	
	<b>Examiner</b> RITA K. SINHA	<b>Art Unit</b> 3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/11/2008</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: Page 14 of the Specification Line 15 incorrectly refers to a viewer as reference number 29.

Appropriate correction is required.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference number 26. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

3. Claims 9-10 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 9-10 both state "the liquid crystal" of claim 1; however liquid crystal is not cited in claim 1. For examining purposes, claims 9 and 10 are treated as dependent from claim 2.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4-5 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Lennerstad (6,341,439).

As per claim 1, Lennerstad discloses a multiple layer display comprising:  
a first substantially planar display layer (2), a second substantially planar display layer (4) overlapping at least a portion of the first display layer and positioned substantially parallel thereto (Figure 3A), the first and second display layers capable of displaying first and second video images respectively thereon and the transparency of the second layer being adjustable to control the visibility of the overlapping portion of the first display layer through the second display layer (Figure 3B), wherein the first and second

display layers include image directing means (outside layer, 5) which direct the images displayed thereon in first and second directions, or ranges of directions (See Figure 4), respectively so that the images displayed on the first and second display layers are viewable only at first and second viewing angles or ranges of viewing angles respectively, and wherein the first and second viewing angles or ranges of viewing angles are not the same (See Figure 8).

As per claim 4, Lennerstad further discloses that there is no overlap between the viewing angles or range of viewing angles of the first display layer and the viewing angle or range of viewing angles of the second display layer (See Figure 8).

As per claim 5, Lennerstad further discloses that there is some overlap between the viewing angles or range of viewing angles of the first display layer and the viewing angle or range of viewing angles of the second display layer (See Figure 4).

As per claim 13, Lennerstad further discloses that additional substantially planar, selectively transparent, display layers (1) are provided beneath the second display layer overlapped with said first and second display layers (See Column 4 Lines 3-4; See Figure 3A).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-3 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lennerstad (6,341,439) as applied to claim 1 above, and further in view of Trcka et al. (3,863,246).

As per claim 2, Lennersted discloses the above claimed limitations. However, it fails to disclose that the first and second layers are liquid crystal display layers.

Trcka discloses the concept of first (16) and second (20) display layers that are both liquid crystal display layers (See Column 1 Lines 56-60).

From this teaching of Trcka, it would have been obvious to one having ordinary skill in the art to modify the layers of Lennersted to include the liquid crystal display layers of Trcka for the purpose of improving the image contrast.

As per claim 3, Lennersted discloses the above claimed limitations. However, it fails to disclose that a diffusion means is provided between the overlapping portions of the first and second display layers to reduce moire interference therebetween.

Trcka discloses the concept of a diffusion means (18) that is provided between the overlapping portions of the first and second display layers to reduce moire interference therebetween (See Column 2 Lines 63-66).

From this teaching of Trcka, it would have been obvious to one having ordinary skill in the art to modify the layers of Lennersted to include the liquid crystal display layers of Trcka for the purpose of eliminating direct viewing of the light source.

As per claim 6, Lennersted discloses the above claimed limitations. However, it fails to disclose that the viewing angle enhancing means are applied to at least one of

said first and second display layers to increase the range of viewing angles at which an image displayed on said at least one display layer is viewable.

Trcka discloses the concept of a viewing angle enhancing means that is applied to at least one of said first and second display layers to increase the range of viewing angles (See Column 2 Lines 22-25) at which an image displayed on said at least one display layer is viewable (26 and 28; See Figure 1).

From this teaching of Trcka, it would have been obvious to one having ordinary skill in the art to modify the layers of Lennersted to include the angle enhancing means of Trcka for the purpose of providing various intensity levels in the display views.

As per claim 7, Lennersted as modified by Trcka discloses the above claimed limitations. Trcka discloses that the viewing angle enhancing means comprises a wide angle viewing diffuser positioned in front of one of said display layers (See Figures 1 and 2).

As per claim 8, Lennerstad discloses the above claimed limitations. However, it fails to disclose that the image directing means comprise at least one of: light control film, holographic diffusion film, prismatic film, a parallax barrier, and/or a lenticular lens.

Trcka discloses an image directing means that consists of light control film (See Column 2 Lines 10-15).

From this teaching of Trcka, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the image directing means of Lennersted to include the light control film of Trcka for the purpose of assisting in providing various intensity levels in the display views.

As per claim 9, Lennersted as modified by Trcka disclose the above claimed limitations. Trcka discloses that the image directing means controls the cell structure of the liquid crystal within at least one of the first or second display layers (See Column 1 Lines 56-67).

As per claim 10, Lennersted as modified by Trcka disclose the above claimed limitations. Trcka discloses the concept of an image directing means that is formed by arranging the liquid crystal molecules within at least one of the first or second display layers at a predetermined angle to the surface of that display layer (See Figure 2).

8. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lennerstad (6,341,439) as applied to claim 1 above, and further in view of Brosh et al. (5,924,870).

As per claim 11, Lennerstad discloses a viewing angle dependent filtering means that is provided in front of the display layer and that the primary image is viewable from a range of primary viewing angles and wherein the range of primary viewing angles overlaps with either the first or second range of viewing angles of the other display layer and the range of secondary viewing angles overlaps with the second or first range of viewing angles or the other display layer (See Figure 4).

However, Lennersted fails to disclose that the image displayed on one display layer is made up of separate interlaced primary and secondary images.

Brosh discloses the concept of an image that is displayed on one display layer is made up of separate interlaced primary (60) and secondary (70) images.



From this teaching of Brosh, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the image of Lennersted to include the interlaced images of Brosh for the purpose of broadening display options by ensuring a first image is viewed from a first viewing perspective and a second image from another viewing perspective.

As per claim 12, Lennerstad as modified by Brosh discloses the above claimed limitations. Brosh further discloses that the viewing angle dependent filtering means comprises a lens stripe pattern (62, 72 and 82) (See Figure 10).

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lucas (6,845,578) discloses an illuminated multi-image display system. Sekiguchi et al. (5,695,346) discloses a process and display with movable images. Rutilli (4,768,300) discloses an illuminated information display.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RITA K. SINHA whose telephone number is (571)270-3027. The examiner can normally be reached on M-F 730-500.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on (571) 272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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RKS